

Abstract

A method for inhibiting and/or ameliorating the occurrence of diseases associated
5 with reactive oxygen species, reactive nitrogen species, radicals and/or non-radicals in a
subject whereby a subject is administered a carotenoid structural analog, either alone or
in combination with another carotenoid analog, or co-antioxidant formulation. The
analog or analog combination is administered such that the subject's risk of experiencing
diseases associated with reactive oxygen species, reactive nitrogen species, radicals
10 and/or non-radicals may be thereby reduced. The analog or analog combination may be
administered to a subject for the inhibition and/or amelioration of ischemia-reperfusion
injury. The analog or analog combination may be administered to a subject for the
inhibition and/or amelioration of liver disease. The analog or analog combination may be
administered to a subject for the inhibition and/or amelioration of cancer. The analog or
15 analog combination may be administered to a subject for the inhibition and/or
amelioration of cardiac arrhythmia and/or sudden cardiac death. The analog or analog
combination may be administered to a subject for the inhibition and/or amelioration of
any disease that involves production of reactive oxygen species, reactive nitrogen
species, radicals and/or non-radicals. In one embodiment, a water-soluble and/or water-
20 dispersible astaxanthin analog is particularly effective. This invention further includes
pharmaceutical compositions comprising structural carotenoid analogs either alone or in
combination.

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